

work. The large couples are better suited to obtain the average temperature as they have an inertia that prevents their responding to sudden differences due to the continual surging of the gas currents. This surging is very much the same as that of water falling over a dam. Fig. 173 illustrates these surges at points *A* and *C*. The surges at *C* have an amplitude of slightly over  $50^\circ$ , while those at *A* have an amplitude of about  $300^\circ$ . Anyone

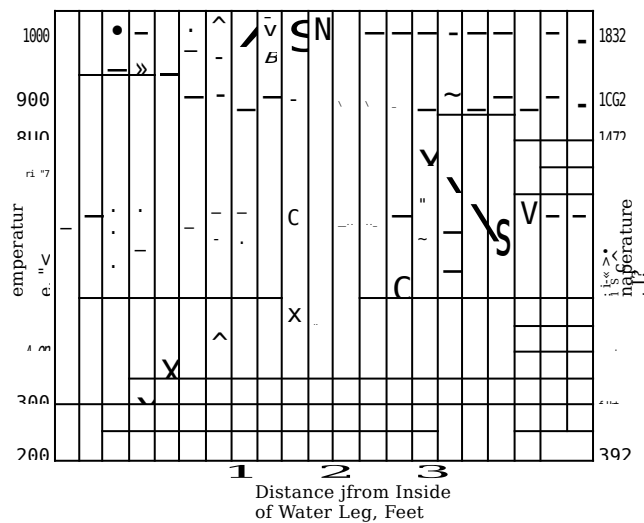


Fig. 176.

a point ( $\infty$ ) inside the water leg; to a point  
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trate the "hydraulic" flow of the hot Kasen  
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**below** the lower surface of each baffle and  
 etutcadiiiK  $\leftrightarrow$  vur the end of the baffle to the  
 next  
 higher level. The location of the high  
 temperature poiritw and the drop **in** these  
 curves  
 indicates the trajectory of the stream of  
 gases due to its horizontal velocity in  
 flowing off  
 the end of the baffles.

who has watched a bonfire  
 located where the flames were  
 sheltered  
 from the wind, has noticed that  
 there were continual flame  
 surges.  
 In fact a fairly good idea of  
 flame surges may be obtained  
 by  
 watching a match burn -when  
 the flame is sheltered from all  
 drafts. Another illustration  
 of the surging of flames is  
 the  
 " singing flame " mentioned in  
 all works on elementary  
 physics.  
 Any flame burning in an  
 enclosure will be subjected to  
 certain  
 periodic vibration.